

**Landsat 7 Processing System (LPS)
Installation Procedure**

REVIEW

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List of TBDs/TBRs/TBSs

Reference	Description	Page
Section 1.3.4 (TBR)	EDC will provide network cable interconnections to the 10BaseT Hub (thin net) and FDDI Concentrator.	1-2
Section 2.4 (TBS)	HP Laserjet5 Printer, Power Requirements	2-2
Section 2.4 (TBR)	The power connection for the RAID/DLS cabinets are NEMA 5-20P.	2-2
Section 3.5 (TBR)	The network (Ethernet and FDDI) cables are provided by EDC. EDC will install these network cables.	3-3
Figure 3-2 (TBD)	Jukebox details	3-4
Figure 4-2 (TBD)	Jukebox details	4-3
Section 4.5 (TBR)	SGI Challenge XL Checkout	4-4
Section 4.9 (TBR)	Ciprico Disk Array (RAID) Checkout	4-6
Section 4.13 (TBD)	At Indy1, use the ftp command to send the file from string 1 to string 2 - Details TBD	4-7
Section 5.3 (TBR)	LPS Hardware Components	5-1
Section 5-4 (TBR)	The executable software delivered is contained on 4mm diskettes	5-1

Preface

This document contains the installation and checkout procedures for the Landsat 7 Processing System (LPS) located at the Earth Resources Observation Satellite (EROS) Data Center (EDC). It is controlled by the LPS Project Configuration Management Board (PCMB) and may be updated by a document change notice (DCN) or a revision. Direct comments and questions regarding this document to:

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Contents

Section 1—Introduction

1.1	Purpose and Scope of Document.....	1-1
1.2	Landsat 7 Processing System Description.....	1-1
1.3	Installation Approach.....	1-1
1.3.1	Shipment and Installation Schedule.....	1-2
1.3.2	Software Builds.....	1-2
1.3.3	Prerequisite for LPS Installation.....	1-2
1.3.4	Installation Responsibilities.....	1-2
1.3.5	Network Information.....	1-2
1.4	Related Publications	1-3

Section 2—LPS Facility Requirements

2.1	Introduction	2-1
2.2	Space Requirements	2-1
2.3	Floor Loading.....	2-1
2.4	Power and Grounding Requirements.....	2-1
2.5	Cooling Requirements.....	2-2
2.6	Vibration.....	2-3
2.7	Temperature and Humidity.....	2-3

Section 3—System Installation

3.1	Introduction	3-1
3.2	Unpacking and Inspection	3-1
3.3	Equipment Layout	3-1
3.4	ac Power Connections.....	3-1
3.5	Cabling	3-3
3.6	Software Installation	3-3

Section 4—System Checkout

4.1	Introduction	4-1
4.2	Problem Tracking and Correction	4-1
4.3	LPS Startup	4-1
4.4	Indy Workstation Checkout	4-4
4.5	SGI Challenge XL Checkout.....	4-4
4.6	X Terminal Checkout.....	4-5
4.7	Ethernet LAN Checkout.....	4-5
4.8	Digital Linear Tape Drive Checkout.....	4-5
4.9	Ciprico Disk Array (RAID) Checkout.....	4-6
4.10	LP DAAC Interface (FDDI LAN) Checkout.....	4-6
4.11	HP LaserJet5 Printer Checkout.....	4-6

4.12	Epson LQ-570+ (Label) Printer Checkout	4-7
4.13	LGS Signal Interface Checkout.....	4-7
4.14	LPS Shutdown.....	4-7

Section 5—System Turnover to the EDC

5.1	Introduction	5-1
5.2	LPS Configuration.....	5-1
5.3	Hardware Components.....	5-1
5.4	Software Items.....	5-1
5.5	Documents and Manuals	5-2
5.6	Demonstration.....	5-2
5.7	Site Acceptance Test	5-3

Appendix—Installation Checklist

Acronym List

Tables

2-1	ac Requirements for LPS Equipment.....	2-2
5-1	LPS Hardware Components.....	5-1

Figures

3-1	Challenge XL – Rear View, Doors Open.....	3-2
3-2	RAID/DLT Cabinet – Rear View	3-4
4-1	Challenge XL – Front View, Doors Open.....	4-2
4-2	RAID/DLT Cabinet – Front View	4-3

Section 1—Introduction

1.1 Purpose and Scope of Document

This document contains the installation and checkout procedures for the Landsat 7 Processing System (LPS) located at the Earth Resources Observation Satellite (EROS) Data Center (EDC). Included in this document are the EDC facility site requirements, installation instructions, and equipment checkout procedures. This document also describes the turnover of the LPS to the EDC.

1.2 Landsat 7 Processing System Description

The LPS architecture is described in *Landsat 7 Processing System Design Specification*. Information regarding external interfaces between the LPS and other systems is contained in the various interface control documents (ICDs) listed in Section 1.4. *Landsat 7 Processing System Operations and Maintenance Manual* provides additional information on the LPS.

1.3 Installation Approach

Following completion of the LPS factory acceptance test (FAT) at Goddard Space Flight Center (GSFC), the LPS equipment will be shipped to the EDC. The LPS will then be physically located at the LPS designated site noted in the *EDC Site Preparation Plan for the Installation of the Landsat 7 LGS, LPS and IAS* (Section 1.4.1). It is expected the LPS designated site will meet the LPS facility requirements specified in Section 2. After the system is connected to the power, signal, and network cables (as described in Section 3), checkout will be performed (as described in Section 4). On completion of the checkout and subsequent site acceptance test (SAT), the LPS equipment will be formally turned over to the EDC.

The final testing of LPS interfaces to other EDC systems such as the Land Processes (LP) Distributed Active Archive Center (DAAC) and the Landsat 7 Ground Station (LGS) will be performed during the SAT. This document contains test procedures that verify the functionality of the LPS interfaces prior to connection to the external interfaces.

1.3.1 Shipment and Installation Schedule

The LPS will be shipped to the EDC following completion of the FAT at GSFC. The baseline schedules for the LPS FAT, shipment and installation are noted in the *LPS Transition Plan* (Section 1.4.2).

1.3.2 Software Builds

The LPS software is implemented in three software builds and two releases. The baseline schedules for the LPS builds and releases are noted in the *LPS Build Implementation Plan* (Section 1.4.3). The FAT will commence after the LPS final software release. The implementation of LPS software builds and the FAT will be performed at GSFC.

1.3.3 Prerequisite for LPS Installation

There are two basic prerequisites to begin the installation of the LPS at EDC: completion of LPS FAT at GSFC and site readiness at the EDC.

1.3.4 Installation Responsibilities

The LPS project will install the LPS at the EDC. The EDC is responsible for preparing the site and will provide network cable interconnections to the LPS 10BaseT Hub (thin net) and the fiber distributed data interface (FDDI) concentrator (**TBR**).

1.3.5 Network Information

The EDC will is responsible for providing the following information to facilitate the LPS connections to the EDC Ethernet and the FDDI local area network (LAN).

1. FDDI Internet Protocol (IP) addresses on the EBnet for LPS strings 1 through 5.
2. Ethernet IP addresses for
 - LPS strings 1 through 5
 - LPS Indy workstations 1 through 3
 - LPS X terminals 1 and 2

1.4 Related Publications

1. *EDC Site Preparation Plan for the Installation of the Landsat 7 LGS, LPS, and IAS*, Draft, EROS Data Center, February 29, 1996
2. *LPS Transition Plan*, NASA/GSFC, Document No. 514-2TP/0195, September 1996
3. *LPS Build Implementation Plan*, NASA/GSFC, Document No. 514-4BIP/0195, September 1996
4. *Landsat 7 Processing System (LPS) System Design Specifications*, NASA/GSFC, Document No. 4560-8SDS/0194, May 26, 1995
5. *Interface Control Document Between the Landsat Ground Station and the Landsat Processing System*, NASA/GSFC, Document No. 560-1ICD/0794, May 26, 1995
6. *Interface Control Document Between EOSDIS Core System (ECS) and the Landsat 7 System*, Document No. 505-41-39, February 1996
7. *Interface Control Document Between the EBnet and the Landsat 7 Processing System (LPS)*, Document No. 540-097, July 1996
8. *Landsat 7 Processing System (LPS) Operations and Maintenance Manual*, NASA/GSFC, Document No. 514-3OMM/0196, September 1996
9. *Landsat 7 Processing System User's Guide*, Draft, NASA/GSFC, Document No. 514-3SUG/01, 1995
10. *Challenge/Onyx Site Preparation Guide*, Silicon Graphics, Inc., Document No. 108-7040-020, 1993
11. *Power Challenge™ and Challenge XL Rackmount Owner's Guide*, Silicon Graphics, Inc., Document No. 007-1735-040, February 1996
12. *Indy™ Workstation Owner's Guide*, Silicon Graphics, Inc., Document No. 007-9804-050, February 1996
13. IRIS Insight Library, "Decksides Power Challenge and Challenge L Owner's Guide" (This online documentation is available on the SGI Challenge L system drive.)
14. *AD6700 Integrated Disk Array Quick Installation Guide*, Ciprico, Inc., Publication No. 21020270A, August 1993
15. *Addendum to the Disk Array Guide*, Ciprico, Inc., Publication No. 21020650A, March 1994

16. *Product Note for 6700/10 Disk Arrays and Controller Boards*, Ciprico, Inc., Publication No. 21020295H, April 1995
17. *Digital Linear Tape Drive Owner's Guide*, Silicon Graphics, Inc., Document No. 007-2266-001, 1994
18. *Installing Your HMX Family System*, Network Computing Devices, Inc., Part No. 9300326, Revision A, February 1995
19. *VSIO Card User's Manual*, General Standard Corporation, TBS
20. *About Your 21-Inch Color Monitor NC2185AA*, Network Computing Devices, Inc., Part No. 9300289, Revision A, April 1994
21. *Epson LQ-570+ (Label) Printer User's Manual*, Epson America, Inc., Document No. X-LQ570PLUS
22. *LaserJet5 Printer Owner's Guide*, Hewlett-Packard, TBS

Section 2—LPS Facility Requirements

2.1 Introduction

The following subsections provide information on space requirements, floor loading, power, cooling, vibration, temperature, and humidity for the LPS site at the EDC.

2.2 Space Requirements

The EDC floorplan and computer room layout for LPS is shown in *EDC Site Preparation Plan for the Installation of the Landsat 7 LGS, LPS, and IAS* (Section 1.4.1). The floor layout of the LPS systems operation room is also contained this document.

Silicon Graphics, Inc. (SGI) specifies a minimum ceiling height of 96 inches to allow for Challenge XL cabinet airflow clearance. Also, the Challenge XL cabinet requires 36 inch wide clearances in the front and back of the cabinets to allow for the doors to fully open. For activities that use side access, adequate space is required to roll the cabinet forward or backward to provide side clearance.

2.3 Floor Loading

Minimum floor loading is 133 pounds per square foot to support the SGI Challenge XL. For installations on raised floors, EDC should check that the construction will support the weight distribution. The SGI Challenge XL cabinets use four casters and four stabilizing levelers for weight distribution. If the floor is modified (for example, by adding cutouts for cable access), EDC should determine and provide the additional reinforcement, as required.

2.4 Power and Grounding Requirements

Table 2–1 summarizes the alternating current (ac) power requirements for the LPS equipment.

Table 2-1. ac Requirements for LPS Equipment

Equipment	Power VAC (min/nom/max)	Hertz (min/max)	Phase	Amps
Challenge XL	187/208/264	50/60	1	24
RAID/DLT cabinet	100/120	50/60	1	14
Indy workstation				
System chassis	100/132	47/63	1	4.2
Monitor	100/132	47/63	1	2.7
NCD X Terminal				
Terminal base	90/264 (use 110 nominal)	47/63	1	0.2
Monitor	90/264 (use 110 nominal)	50/60	1	1.3
Hewlett-Packard (HP) LaserJet5 printer	TBS			
Epson LQ 570+ printer	120	50/60	1	2

The power connector for each Challenge XL is a NEMA L6-30R, twist-lock type, 2-P, 3-W, 30A, 250V. The power connectors for the redundant array of inexpensive devices (RAID) digital linear tape (DLT) cabinets are NEMA 5-20P (**TBR**). The power connectors for the other equipment are NEMA 5-15P.

There are no special grounding requirements for the LPS.

2.5 Cooling Requirements

The LPS cooling requirements are as follows:

Equipment	ac Load (ton) (each unit/system)	Btu/Hour (each unit/system)
Challenge XL	1.33	16,000
Indy	0.075	900
DLT	0.028	340
RAID	0.085	1,020
X Terminal	0.048	570
Printers	–	–
LPS Total	8.11	97400

The total is based on five Challenge XLs, three Indy workstations, 10 RAID/DLT subsystems, and two X Terminals.

NOTE: The Challenge cabinet airflow is drawn in through the front and blown out through the top. Floor cutouts for airflow are not needed. The DLT/RAID cabinet pulls in air from the bottom and exhausts out the top.

2.6 Vibration

EDC shall check that vibrations are kept within the following limits for the SGI equipment. For the Challenge XLs,

- Sustained vibration, operating: Less than 5 to 10 Hz at 0.01-inch total excursion; 10 to 500 Hz at 0.1 gram
- Peak vibration, operating: Less than 5 to 10 Hz at 0.02-inch total excursion; 10 to 500 Hz at 0.1 gram
- Sensitive (harmonic) frequencies, operating: 8 to 33 Hz

For the Indy workstations, the limits are 0.02 inch at 5 to 19 Hz and 0.25 gram at 10 to 500 Hz.

2.7 Temperature and Humidity

The air temperature and humidity ranges for the LPS are as follows:

- Air temperature range
 - Operating: 10 to 35 degrees centigrade at sea level
 - Nonoperating: -20 to 60 degrees centigrade at sea level
- Humidity range
 - Operating: 20 to 80 percent noncondensing
 - Nonoperating: 10 to 90 percent noncondensing

Section 3—System Installation

3.1 Introduction

This section provides information for installing LPS equipment. Once the LPS site at the EDC has been prepared to meet the requirements described in Section 2, the equipment can be installed. This section provides information on unpacking and inspection, layout, ac power connections, cabling, and software installation.

The information provided in this section refers to the installation of the entire LPS. SGI will be contracted to install the Challenge XLs and Indy workstations. LPS personnel will install the LPS components not covered under the SGI contract.

3.2 Unpacking and Inspection

To unpack, position LPS equipment in a manner convenient for performing the installation. Remove any packing material and perform a thorough inspection. Check the packing container for external damage before removing the contents. Use care in handling and removing the packing material and the components.

3.3 Equipment Layout

The LPS equipment layout is shown in *EDC Site Preparation Plan for the Installation of the Landsat 7 LGS, LPS, and IAS* (Section 1.4.1). The floor layout of the computer room and the systems operation room is also contained in this document. Position LPS equipment as indicated in the EDC layout and provide cutouts in the floor panels for cable access.

3.4 ac Power Connections

The LPS site power requirements and connector types are described in Section 2.4. Connect the LPS to the designated power sources at the EDC. (NOTE: All power switches of all LPS equipment should be in the OFF position during the power connection.)

The Challenge XL ac power connector is located at the bottom of the rear of each XL cabinet (Figure 3-1). The rear door does not have to be opened to access this connector.

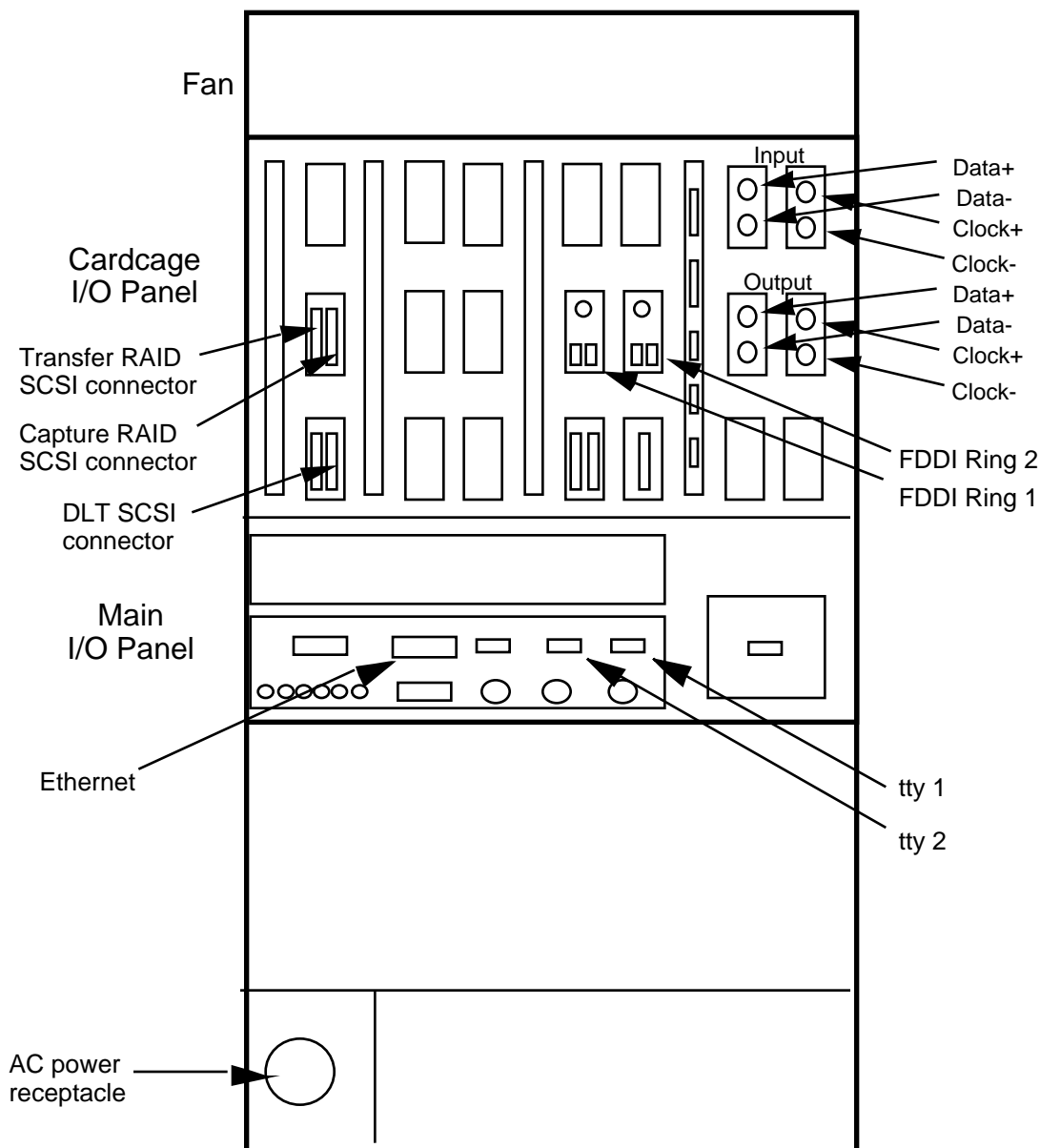


Figure 3-1. Challenge XL – Rear View, Doors Open

The RAID/DLT cabinet ac power strip connector is located at the rear of each cabinet. Open the cabinet rear door to gain access to the connector.

The Indy, X Terminal, and printer ac power connections are accessible on each chassis. Refer to vendor documentation for these components.

3.5 Cabling

The LPS cable connections are shown in the LPS interconnection cable diagram that is included in Appendix B of the *LPS Operations and Maintenance Manual* (Section 1.4.8).

The network (Ethernet and FDDI) cables are provided by the EDC, which will install these network cables (**TBR**).

LPS personnel will install the serial, printer, and coax cables as shown in the LPS interconnection diagram. These cables are individually designated by a cable number. The cable ends are labeled for the connection equipment (or location). The LPS cable labeling scheme is defined in the *LPS Operations and Maintenance Manual* (Section 1.4.8).

Place LPS cables under the floor panels using aisles or walkways for the cable routes. Sufficient cable length has been provided. Bundle the cables within the cabinets in a convenient manner using cable ties. Allow sufficient service loop. Ensure that the labels are clearly visible.

The Challenge XL input/output cable connections are located on the connector panels at the rear of the cabinet (Figure 3-1). Open the rear doors to gain access to these connectors.

The RAID/DLT cabinet cable connections are located on the rear of each component within the cabinet (Figure 3-2). Open the cabinet rear door to gain access to these connectors.

The Indy, X Terminal, and printer connectors are accessible on each chassis. Refer to vendor documentation for these components.

3.6 Software Installation

The operational software will be installed LPS on each Challenge XL system drive prior to shipment to the EDC. Therefore, LPS software installation is not required at the EDC site.

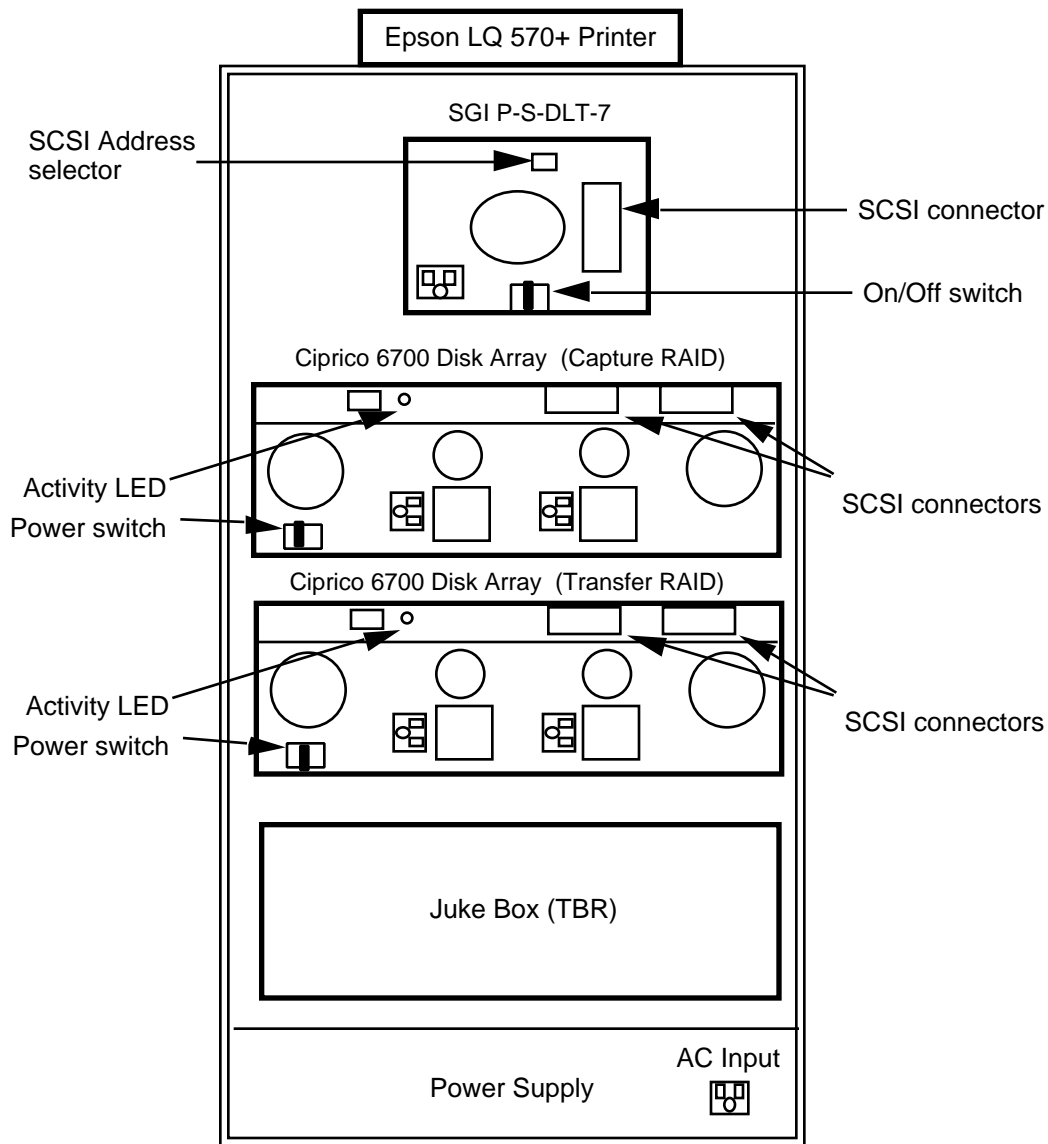


Figure 3-2. RAID/DLT Cabinet – Rear View (TBD)

Section 4—System Checkout

4.1 Introduction

This section describes the checkout of the hardware installation for the LPS. Sections 4.3 through 4.13 constitute a complete checkout procedure. A checklist is provided in Appendix A for the checkout procedure.

SGI will be contracted to install the Challenge XLs and Indy workstations (Sections 4.4 and 4.5). Checkout procedures are provided to verify the installation. LPS personnel will perform the checkout of the entire LPS. (NOTE: The login name and password of each system are obtained from the LPS system administrator.)

Included in the checkout procedure are references to the equipment setup procedures in *LPS Operations and Maintenance Manual*. This procedure shall be exercised for the Indy workstations and the X Terminals after relocation to the EDC.

Following completion of system checkout, the LPS is available for site acceptance testing.

4.2 Problem Tracking and Correction

The LPS ICAS Configuration Change Request (CCR) procedures, remotely accessible by LPS personnel at the EDC, will be used for documenting and tracking hardware and software problems.

4.3 LPS Startup

Apply power to the following LPS equipment:

- Five SGI Challenge XL cabinets—Turn on power at the switch located behind the lower front door (Figure 4–1). When the SGI Challenge XLs are powered on, each unit goes through its power-on self test (POST) for approximately 30 to 40 seconds.
- Two NDC X Terminals—Refer to manufacturer's documentation. The monitor power switch is located on the back of the monitor. Verify that the power indicator is green. The power switch for the terminal base

unit is located on the rear of the unit. Verify that the power light emitting diode (LED) is illuminated.

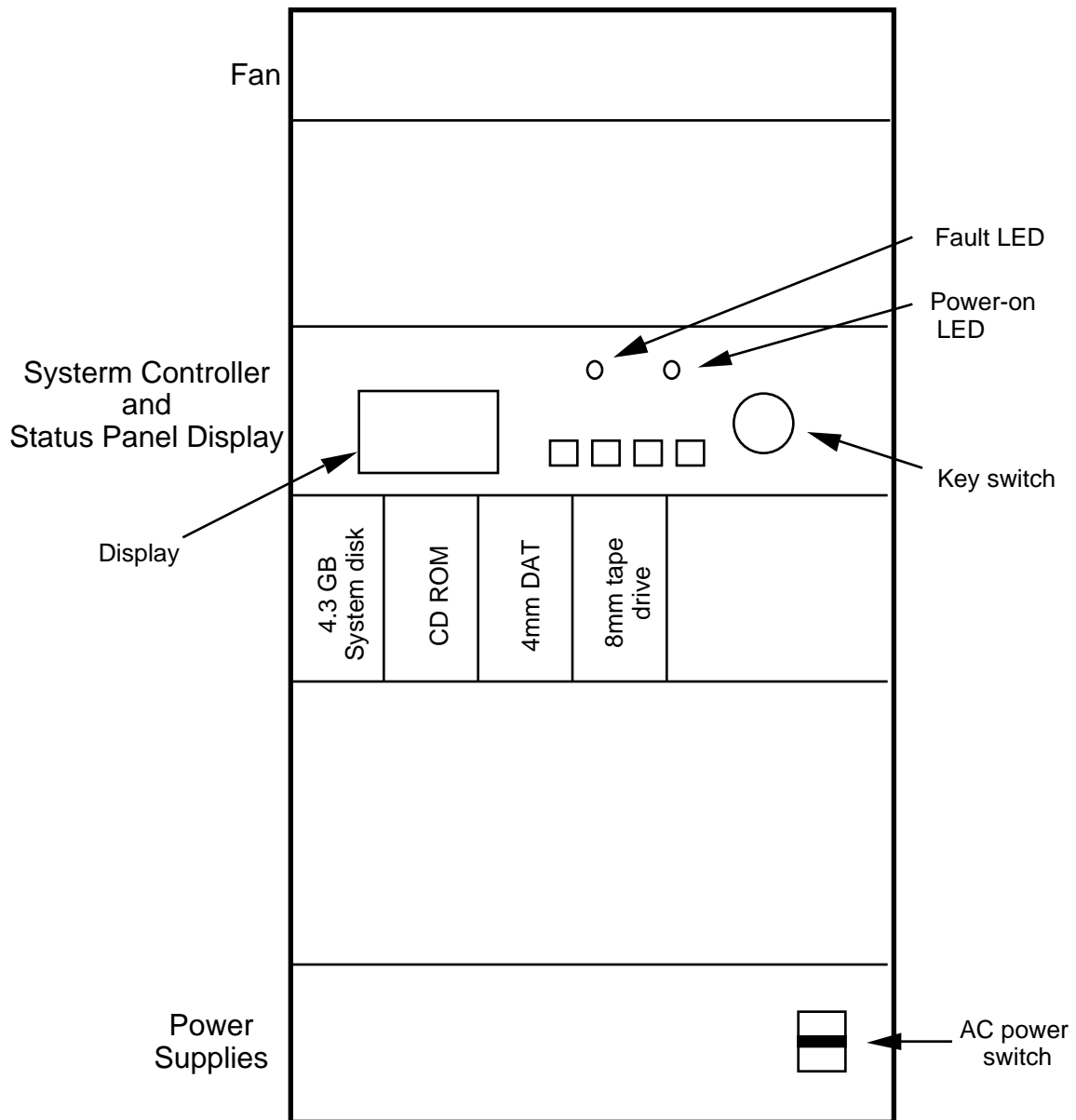


Figure 4-1. Challenge XL – Front View, Doors Open

- Three SGI Indy workstations—Refer to manufacturer's documentation. Turn on the monitor power switch on the front of the monitor. Verify that the power indicator is illuminated. On the system chassis, press and release the power switch on the front panel. The power indicator is amber for a few seconds as the system runs the power on diagnostics. The LED turns green as the system boots.

- Five RAID/DLT/label printer cabinets (Figures 3–2 and 4–2). Ensure that the RAIDs and DLTs are off. Apply power to the cabinet using the main power switch at the front of the cabinet.

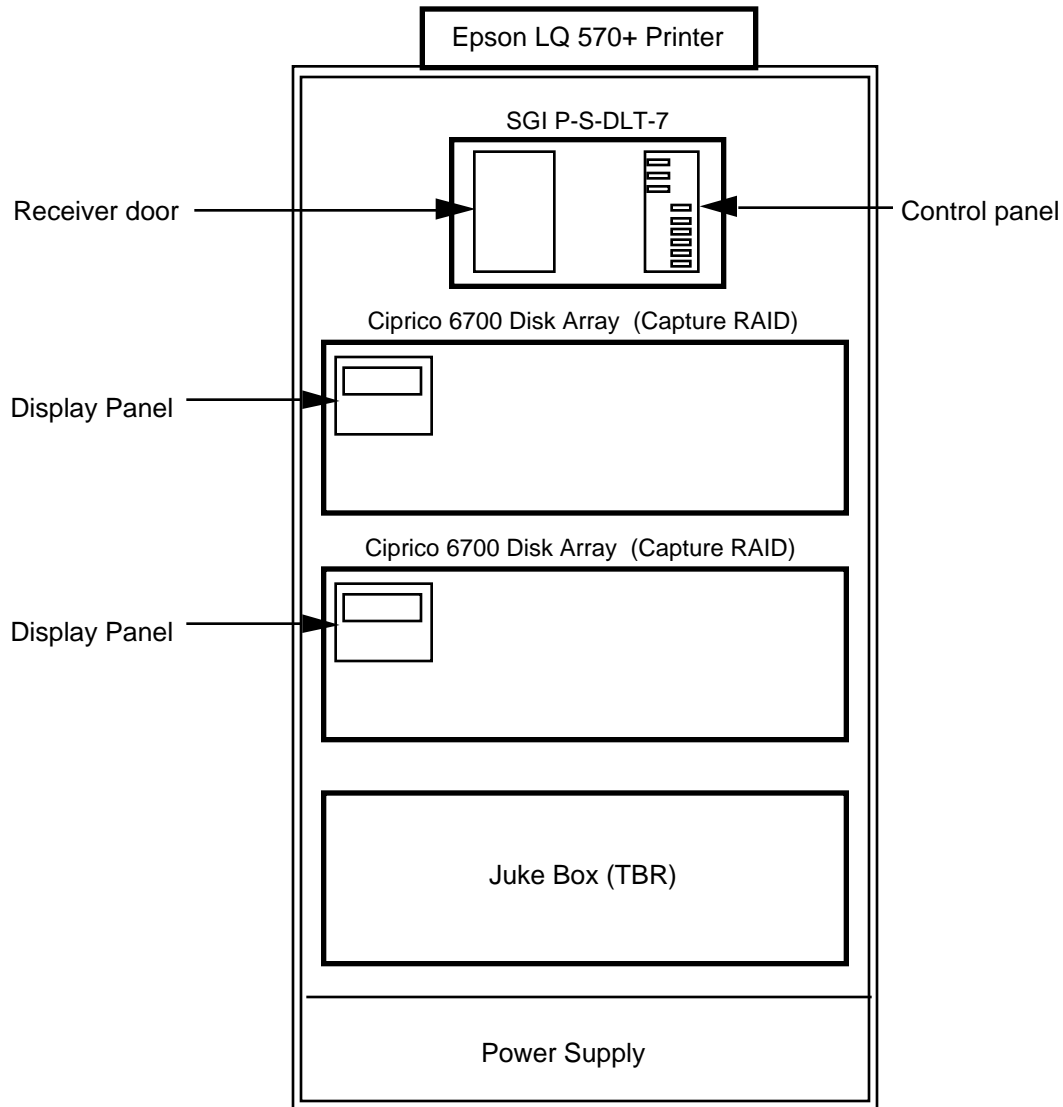


Figure 4–2. RAID/DLT Cabinet – Front View (TBD)

When the DLTs are powered on, each unit goes through its POST. All of the LEDs on the front of the drive enclosure turn on sequentially from top to bottom as the POST begins. All four LEDs stay on solidly as the POST runs. All LEDs except the yellow tape-in-use LED go dark as the post finishes. Apply power to the DLTs and verify the POST. At RAID power up, each RAID performs a built-in self test (BIST). This process takes approximately 10 seconds. At the conclusion of the process, the

display should indicate “On Line Status: OK”. Apply power to the RAIDs and verify the BIST.

- Two HP LaserJet5 printers—Refer to manufacturer’s documentation. The power switch is located at the rear of each unit.
- Epson LQ-570+ (Label) printer—Refer to manufacturer’s documentation. The power switch is located at the front of each unit.

4.4 Indy Workstation Checkout

After the power up of each Indy workstation, a login window appears. At the prompt, enter the name and password on each Indy. This login sequence verifies that the Indy system is operational. The following subsections discuss testing the communication links to the Challenge XLs.

Perform the Indy setup procedure described in *LPS Operations and Maintenance Manual*.

4.5 SGI Challenge XL Checkout (TBR)

At Indy1, establish a window for each LPS string using the Desktop Menu at the top left of the string. Use the mouse to scroll down and select UNIX Shell. Click the left mouse button and the window will appear. Repeat for each string. Similarly, at Indy2, establish a window for string 1 only. At Indy3, establish a window for string 1 only.

In each window, connect to the desired string by using the console utility. Type the command “cu -l ttyd1(or 2, 3, 4, 5)” and press <ENTER>. NOTE: Using this console utility will result in all system messages being displayed in the window. The message “Connected” will appear. Press <ENTER>. The Indy is now connected to the selected Challenge XL.

Insert the key in each Challenge XL front panel key switch (Figure 4–1) and turn the key switch clockwise to the 12:00 (ON) position. This will initiate the Challenge XL startup (boot) sequence.

The XL green power-on LED, located above the function buttons, lights up to indicate that power has been applied to the system midplane. The amber fault LED then lights up to indicate that power has been applied to the system controller. The fault LED goes out when the system controller has successfully initialized and the power-on tests are completed. Allow approximately 2 minutes for this to complete. Messages will appear in each console window as each system boots up.

After startup is finished, the prompt “lps001 (or 002 through 005) login:” will appear on each Indy window. Type “Landsat” and press <ENTER> for both the login and password. At the message “TERM=(vt100)” press <ENTER>. This verifies that the serial links to the Indy workstations are operational.

From Indy1, perform a system disk directory on each Challenge XL. The command “ls-la”<ENTER> will display a long list of directory files.

Insert a blank 4mm cassette in Challenge XL 1 digital audio tape (DAT) drive. From Indy1, copy a file from the system disk to tape using the command “tar -cvf /dev/tape <filename>.” To display a list of files on the tape, type “tar -tvf /dev/tape.” Repeat for Challenge Xls 2 through 5.

Insert a blank 8mm cassette in Challenge XL 1 8mm drive. From Indy1, copy a file from the system disk to tape using the command “tar -cvf /dev/rmt6 <filename>”. To display a list of files on the tape, type “tar -tvf /dev/rmt6.” Repeat for Challenge Xls 2 through 5.

Insert a CD-ROM in the Challenge XL 1 drive. At Indy1, perform a directory using the command “ls /CDROM.” Repeat for Challenge Xls 2 through 5.

The basic functionality of the Challenge XL and its storage devices have been verified.

4.6 X Terminal Checkout

Perform the X Terminal setup procedure described in *LPS Operations and Maintenance Manual*. This verifies the local X Terminal system operation.

4.7 Ethernet LAN Checkout

At Indy1, ping (a UNIX command) all five XLs. At Indy2, ping XL 1. At Indy3, ping XL 1. The network links between the Challenge XLs and the Indys has been verified. Also at Indy1, ping the EDC server.

From the two X Terminals, ping the EDC server. This verifies the Ethernet link to the X Terminals. This verifies the Ethernet connections.

4.8 Digital Linear Tape Drive Checkout

Load a blank DLT cassette in the DLT drive on string 1. Follow the instructions printed on the front of the DLT drive. The DLT drive is connected to the Challenge XL small computer serial interface (SCSI) controller unit 7. Refer to the front of the DLT unit for the correct unit number for DLT.

At Indy1, copy a file from Challenge XL 1 system disk to DLT using the command "tar -cvf /dev/rmt4 <filename>." Display a list of the files on DLT with the command "tar -tvf /dev/rmt4."

Repeat this procedure for each DLT on strings 2 through 5.

4.9 Ciprico Disk Array (RAID) Checkout (TBR)

At Indy1, copy a file from Challenge XL 1 system disk to the capture RAID using the command "tar -cvf /dev/u01 <filename>." Display a list of the files on the capture RAID with the command "tar -tvf /dev/u01." Repeat for string 1 transfer RAID (u02).

Repeat this procedure for both RAIDs on strings 2 through 5.

4.10 LP DAAC Interface (FDDI LAN) Checkout

Disconnect the FDDI B LAN connection at all LPS strings.

At Indy1, transfer a file from string 1 Transfer RAID to string 2 Transfer RAID via the FDDI LAN by using the File Transfer Protocol (FTP) command (refer to the *LPS operation and Maintenance Manual* and the *LPS User's Guide*). Verify the directory of the string 2 transfer RAID for receipt of the file. NOTE: The file that resides on string 1 transfer RAID after Ciprico disk array checkout can be renamed and used for this test.

Repeat this test for transferring a file from string 1 to strings 3 through 5.

Optional: If the LP DAAC is available, transmit a test file from LPS string 1 to the LP DAAC . Verify the LP DAAC directory for receipt of the files. Reconnect FDDI B connections and disconnect the A connections at all strings. Repeat the above procedure. Reconnect FDDI A connections at all strings.

4.11 HP LaserJet5 Printer Checkout

After power up, the test printout will appear. At Indy1, print test file to HP LaserJet5 printer 1. Use the command “lp -dyw <filename>” to print a file. Repeat for HP LaserJet5 printer 2.

4.12 Epson LQ-570+ (Label) Printer Checkout

After power up, the test printout will appear. At Indy1, print test file to string 1 label printer. Use the command “lp -dep <filename>” to print a file. Repeat for strings 2 through 5.

4.13 LGS Signal Interface Checkout

If the LGS matrix switch is operational, transmit a test file from LPS string 1 capture RAID to LPS string 2 capture RAID by looping back at the matrix switch (requires LGS operator support). At Indy1, use the FTP command (**details TBD**) to send the file from string 1 to string 2. Verify the directory of the RAID for receipt of the file. Similarly, transmit a file from string 2 back to 1 and verify the directory.

Repeat the procedure for strings 1 and 3.

Repeat the procedure for strings 1 and 4.

Repeat the procedure for strings 1 and 5.

If the LGS matrix switch is not operational, transmit a test file from LPS string 1 capture RAID to LPS string 2 capture RAID by interconnecting the coax signal cables at the matrix switch ends. Use BNC barrel connectors to connect string 1 receive data and clock to string 2 transmit data and clock, and vice versa (for cables loopback). Use the same commands described previously to send the file and verify the directory. Similarly, transmit a file from string 2 back to 1 and verify the directory.

Repeat the procedure for strings 1 and 3.

Repeat the procedure for strings 1 and 4.

Repeat the procedure for strings 1 and 5.

4.14 LPS Shutdown

Checkout of the LPS and its interfaces is complete. The LPS equipment can remain powered up. To shut down the LPS, perform the following procedure:

1. Five Challenge XL cabinets—At Indy1, log out from all five XLs. At Indy2, log out from string 1. At Indy3, log out from string 1. Turn the XL key switch to OFF.
2. Epson LQ-570+ (Label) printers—Turn off the power switch located at the front of each unit to be powered down.
3. Two HP LaserJet5 printers—Turn off the power switch located at the rear of each unit to be powered down.
4. Five RAID/DLT/label printer cabinets—Turn off each RAID and DLT within the cabinet. Turn of the power at the cabinet main power switch.
5. Two NDC X Terminals—Turn off the monitor power switch located on the back of the monitor. Turn off the power switch for the terminal base unit located on the rear of the unit.
6. Three SGI Indy workstations—Turn off the power switch on the front of the monitor. Turn off the system chassis on the front panel.
7. Five Challenge XL cabinets—Turn the XL power switch off.

This completes the power-down sequence.

Section 5—System Turnover to the EDC

5.1 Introduction

This section describes the procedure to turn the LPS equipment over to the EDC.

5.2 LPS Configuration

The LPS is composed of five strings and peripherals. Sections 5.3 and 5.4 list the hardware and software components that are to be turned over to the EDC.

5.3 Hardware Components (TBR)

Table 5–1 lists the LPS hardware components.

Table 5–1. LPS Hardware Components

Item	Quantity
SGI Challenge XL rack mount server Each rack mount server contains <ul style="list-style-type: none">• Eight SGI circuit boards• Two Versa Module European circuit boards• One 4.3-gigabyte system disk• One CD-ROM• One 4mm DAT• One 8mm tape drive	5
SGI Indy workstation	3
RAID/DLT/label printer cabinet Each cabinet contains <ul style="list-style-type: none">• One SGI DLT drive• Two Ciprico RAIDs• One label printer• One juke box	5
NDC X Terminal (monitor and system chassis)	2
HP LaserJet5 printer	2

5.4 Software Items

The executable software delivered is contained on 4 mm diskettes (**TBR**).

5.5 Documents and Manuals

The following documents are included in the LPS turnover to the EDC:

1. LPS Installation Procedure
2. LPS Operations and Maintenance Manual
3. LPS Programmers Reference Manual
4. LPS User's Guide
5. *About Your 21-Inch Color Monitor NC2185AA*
6. *AD6700 Integrated Disk Array Quick Installation Guide*
7. *Addendum to the Disk Array Guide*
8. *Challenge/Onyx Site Preparation Guide*
9. *Digital Linear Tape Drive Owner's Guide*
10. *LaserJet5 Printer Owner's Guide*
11. *Indy™ Workstation Owner's Guide*
12. *Installing Your HMX Family System*
13. *VSIO Card User's Manual*
14. *Power Challenge™ and Challenge XL Rackmount Owner's Guide*
15. *Product Note for 6700/10 Disk Arrays and Controller Boards*
16. *Epson LQ-570+ (Label) Printer User's Manual*

5.6 Demonstration

Optionally, after testing at the EDC is complete, the LPS can be demonstrated. The capture of approximately 1 minute of test image data will be performed and Level 0R processing will be initiated. The image will be displayed on the moving window display.

5.7 Site Acceptance Test

At the conclusion of the LPS SAT and the end-to-end tests, the turnover of the LPS to the EDC is complete.

Appendix A—Installation Checklist

Description	QA	Engineer
4.3 LPS Startup		
Step 1: Challenge XL 1 through 5 power		
Step 2: X Terminals 1 and 2 power		
Step 3: Indy workstations 1 through 3 power		
Step 4: String 1 capture and transfer RAID BIST		
Step 4: String 1 DLTs 1 and 2 POST		
Step 4: String 2 Capture and Transfer RAID BIST		
Step 4: String 2 DLTs 1 and 2 POST		
Step 4: String 3 Capture and Transfer RAID BIST		
Step 4: String 3 DLTs 1 and 2 POST		
Step 4: String 4 capture and transfer RAID BIST		
Step 4: String 4 DLTs 1 and 2 POST		
Step 4: String 5 capture and transfer RAID BIST		
Step 4: String 5 DLTs 1 and 2 POST		
Step 5: HP LaserJet5 printers 1 and 2 power		
Step 6: Epson LQ-570+ printers 1 through 5 power		
4.4 Indy Workstation Checkout		
Indy workstation 1 login		
Indy workstation 2 login		
Indy workstation 3 login		
4.5 SGI Challenge XL Checkout		
Indy1 serial link to XL 1		
Indy1 serial link to XL 2		
Indy1 serial link to XL 3		
Indy1 serial link to XL 4		
Indy1 serial link to XL 5		
Indy2 serial link to XL 1		
Indy3 serial link to XL 1		
Challenge XL 1 system disk		
Challenge XL 1 4mm tape		
Challenge XL 1 8mm tape		
Challenge XL 1 CD-ROM		
Challenge XL 2 system disk		
Challenge XL 2 4mm tape		
Challenge XL 2 8mm tape		
Challenge XL 2 CD-ROM		
Challenge XL 3 system disk		
Challenge XL 3 4mm tape		
Challenge XL 3 8mm tape		
Challenge XL 3 CD-ROM		
Challenge XL 4 system disk		
Challenge XL 4 4mm tape		
Challenge XL 4 8mm tape		
Challenge XL 4 CD-ROM		
Challenge XL 5 system disk		
Challenge XL 5 4mm tape		
Challenge XL 5 8mm tape		
Challenge XL 5 CD-ROM		
4.6 X Terminal Checkout		
X Terminal 1 setup		

X Terminal 2 setup		
4.7 Ethernet LAN Checkout		
Indy1 to XL 1		
Indy1 to XL 2		
Indy1 to XL 3		
Indy1 to XL 4		
Indy1 to XL 5		
Indy2 to XL 1		
Indy3 to XL 1		
Indy1 to EDC server		
X Terminal 1 to XL 1		
X Terminal 2 to XL 1		
4.8 Digital Linear Tape Drive Checkout		
String 1 DLT		
String 2 DLT		
String 3 DLT		
String 4 DLT		
String 5 DLT		
4.9 Ciprico Disk Array (RAID) Checkout		
String 1 capture RAID and transfer RAID		
String 2 capture RAID and transfer RAID		
String 3 capture RAID and transfer RAID		
String 4 capture RAID and transfer RAID		
String 5 capture RAID and transfer RAID		
4.10 LP DAAC Interface (FDDI LAN) Checkout		
LPS string 1 and string 2 FDDI A		
LPS string 1 and string 3 FDDI A		
LPS string 1 and string 4 FDDI A		
LPS string 1 and string 5 FDDI A		
LPS string 1 and LP DAAC FDDI A (optional)		
LPS string 1 and string 2 FDDI B		
LPS string 1 and string 3 FDDI B		
LPS string 1 and string 4 FDDI B		
LPS string 1 and string 5 FDDI B		
LPS string 1 and LP DAAC FDDI B (optional)		
4.11 HP LaserJet5 Printer Checkout		
HP LaserJet5 printer 1		
HP LaserJet5 printer 2		
4.12 Epson LQ-570+ (Label) Printer Checkout		
Epson LQ-570+ (Label) printer 1		
Epson LQ-570+ (Label) printer 2		
Epson LQ-570+ (Label) printer 3		
Epson LQ-570+ (Label) printer 4		
Epson LQ-570+ (Label) printer 5		
4.13 LGS Signal Interface Checkout		
String 1 to string 2		
String 1 from string 2		
String 1 to string 3		
String 1 from string 3		
String 1 to string 4		
String 1 from string 4		
String 1 to string 5		
String 1 from string 5		

4.14 LPS Shutdown (optional)		
Step 1: Log out at Indy1, 2, and 3		
Step 2: Epson LQ-570+ (Label) printer 1 through 5 power		
Step 3: HP LaserJet5 printer 1 and 2 power		
Step 4: RAID/DLT cabinet 1 through 5 power		
Step 5: X Terminal 1 and 2 power		
Step 6: Indy workstation 1 through 3 power		
Step 7: XL 1 through 5 power		

Acronym List

ac	alternating current
BIST	built-in self test
BNC	
Btu	British thermal unit
CD-ROM	compact disk—read-only memory
DAAC	Distributed Active Archive Center
DAT	digital audio tape
DCN	document change notice
DLT	digital linear tape
EDC	EROS Data Center
EROS	Earth Resources Observation Satellite
FAT	factory acceptance test
FDDI	fiber distributed data interface
FTP	File Transfer Protocol
GSFC	Goddard Space Flight Center
HP	Hewlett-Packard
Hz	Hertz
ICD	interface control document
IP	Internet Protocol
LAN	local area network
LED	light emitting diode
LGS	Landsat 7 Ground Station
LP	Land Processes
LPS	Landsat 7 Processing System
NASA	National Aeronautics and Space Administration
POST	power-on self test
RAID	redundant array of inexpensive devices
SAT	site acceptance test
SCSI	small computer serial interface
SGI	Silicon Graphics, Incorporated